

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

**SCHEDULE TO
(Rule 14d-100)**

**TENDER OFFER STATEMENT UNDER SECTION 14(d)(1) OR 13(e)(1)
OF THE SECURITIES EXCHANGE ACT OF 1934
(Amendment No. 1)**

INVIVO THERAPEUTICS HOLDINGS CORP.

(Name of Subject Company (Issuer))

INVIVO THERAPEUTICS HOLDINGS CORP. (Issuer)
(Name of Filing Persons (Identifying status as offeror, issuer or other person))

Warrants to Purchase Common Stock dated October 26, 2010
Investor Warrants to Purchase Common Stock
Placement Agent Warrants to Purchase Common Stock
(Title of Class of Securities)

N/A
(CUSIP Number of Class of Securities)

Frank Reynolds
Chief Executive Officer
InVivo Therapeutics Holdings Corp.
One Kendall Square, Suite B14402
Cambridge, Massachusetts 02139
Phone: (617) 863-5500

(Name, address, and telephone numbers of person authorized to receive notices and communications on behalf of filing persons)

With copies to:

Bradley Jacobson, Esq.
Greenberg Traurig, LLP
One International Place
Boston, Massachusetts 02110
Phone: (617) 310-6205
Facsimile: (617)) 279-8402

CALCULATION OF FILING FEE

Transaction Valuation*	Amount of Filing Fee
\$14,284,044	\$1,948.35

* The transaction value is estimated for solely for purposes of calculating the amount of the filing fee. The calculation assumes that all eligible warrants to purchase 15,009,608 shares of the Issuer's common stock subject to the offer will be exchanged for new warrants pursuant to the terms of the offer. The aggregate value of such warrants was calculated based on the Black-Scholes pricing model.

- ☒ Check the box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid: \$1,948.35
Form or Registration No.: 005-85686

Filing Party: InVivo Therapeutics Holdings Corp.
Date Filed: April 8, 2013

- ☐ Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

Check the appropriate boxes below to designate any transactions to which the statement relates:

- ☐ third-party tender offer subject to Rule 14d-1.
☒ issuer tender offer subject to Rule 13e-4.
☐ going-private transaction subject to Rule 13e-3.
☐ amendment to Schedule 13D under Rule 13d-2.

Check the following box if the filing is a final amendment reporting the results of the tender offer: ☐

This Amendment No. 1 (this “Amendment”) amends and supplements the Tender Offer Statement on Schedule TO originally filed with the U.S. Securities and Exchange Commission (the “SEC”) by InVivo Therapeutics Holdings Corp., a Nevada corporation (the “Company” or “InVivo”), on April 8, 2013 (the “Schedule TO”) in connection with the offer by the Company to exchange certain of its outstanding warrants to purchase common stock (the “Original Warrants”) for new warrants (the “New Warrants”) with the same terms except (i) the expiration date of the New Warrants will be extended two years and (ii) weighted average anti-dilution provisions will be removed from the New Warrants. The offer is subject to the terms and conditions set forth in the Offer to Exchange, dated April 8, 2013, a copy of which was filed with the Schedule TO as Exhibit (a)(1)(A) (the “Offer to Exchange”), and in the Election to Participate, a copy of which was filed with the Schedule TO as Exhibit (a)(1)(B) (the “Election to Participate”), which together with the Offer to Exchange, as each may be amended and supplemented from time to time, constitute the Offer (the “Offer”).

The information contained in the Offer to Exchange and the Election to Participate is incorporated herein by reference, except that such information is hereby amended and supplemented to the extent specifically provided herein.

Items 1 through 11

The information set forth in the Offer to Exchange is hereby amended and supplemented as follows:

1. The section entitled “Important Notices” is hereby amended by deleting the following sentence:

“We are not making, and will not make, the Offer to holders of Eligible Warrants in any state or other jurisdiction in which the Offer would not be in compliance with the laws of such state or other jurisdiction.”

2. The section entitled “The Offer – Section 2. Eligibility” is hereby amended by deleting the following sentence:

“We are not making, and will not make, the Offer to holders of Eligible Warrants in any state or other jurisdiction in which the Offer would not be in compliance with the laws of such state or other jurisdiction.”

3. The third paragraph in the section entitled “The Offer – Section 6. Extension of the Offer; Termination; Amendment” is hereby amended and restated as follows:

“If we:

- decrease the number of Eligible Warrants eligible to participate in this Offer; or
- make any other material amendment to the terms of this Offer; and

in any such case the Offer affected by such decrease is scheduled to expire at any time earlier than the expiration of a period ending on the tenth business day from, and including, the date that notice of any such decrease is first published, sent or given in the manner specified herein, we will extend the Offer for the remaining Eligible Warrants until at least the expiration of such ten-business day period. For the purposes of the Offer, a “business day” means any day other than Saturday, Sunday or a U.S. federal holiday and consists of the time period from 12:01 A.M. through 12:00 midnight (Eastern time).”

4. The section entitled “The Offer – Section 8. Conditions of the Offer – Additional Condition Applicable to Investor Warrants Only” is hereby amended and supplemented by inserting the following:

“If we terminate the Offer with respect to the Investor Warrants as noted above, thereby reducing the number of Eligible Warrants participating in this Offer, and the Offer is scheduled to expire at any time earlier than the expiration of a period ending on the tenth business day from, and including, the date we provide of the termination of the Offer with respect to the Investor Warrants, we will extend the Offer for the remaining Eligible Warrants until at least the expiration of such ten-business day period.”

5. The section entitled “The Offer – Section 11. Information Regarding InVivo” is hereby amended and supplemented by inserting the following:

Unaudited Ratio of Earnings to Fixed Charges

The following table sets forth our ratio of earnings to fixed charges for the periods specified, and on a pro forma basis for the year ended December 31, 2013:

Unaudited Ratio of Earnings to Fixed Charges
(in thousands, except ratio data)

	Year ended December 31, 2012	Pro Forma Year ended December 31, 2012	Year ended December 31, 2011
Earnings:			
Pre-tax income (loss) from continuing operations	\$ 4,664	\$ (10,069)	\$ (34,728)
Add: total fixed charges (details below)	72	72	13
Total income (loss) before provision for income taxes plus fixed charges	<u>\$ 4,736</u>	<u>\$ (9,997)</u>	<u>\$ (34,715)</u>
Fixed charges:			
Interest expense (a)	\$ 72	\$ 72	\$ 13
Amortization of discount related to indebtedness	—	—	—
Total fixed charges	<u>\$ 72</u>	<u>\$ 72</u>	<u>\$ 13</u>
Ratio of earnings to fixed charges	<u>65.78</u>	<u>N/A(*)</u>	<u>N/A(*)</u>
Deficiency of Earnings to Cover Fixed Charges		<u>\$ (10,069)</u>	<u>\$ (34,728)</u>

* During each of these periods, our earnings were less than our fixed charges. The amount of deficiency for each period is set forth in the above table under the caption “Deficiency of Earnings to Cover Fixed Charges.”

(a) Amount represents interest expense related to indebtedness.

6. The section entitled “The Offer – Section 12. Interests of Directors and Executive Officers; Transactions and Arrangements” is hereby amended by deleting “To the best of our knowledge,” from the beginning of the fifth paragraph of that section.

The information set forth in the Election to Participate is hereby amended by deleting the following sentences:

“(3) I have such knowledge and experience in financial and business matters that I am capable of evaluating the merits and risks of investment in the new warrant(s).

“(4) I have had the opportunity to review the current business prospects, financial condition and operating history of the Company as set forth in the Offer to Exchange and the documents referred to or incorporated by reference therein.

“(5) I have had the opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the Offer and I have received all the information I consider necessary or appropriate for deciding whether to accept the offer.”

Item 12. Exhibits.

- (a)(1)(A) * Offer to Exchange, dated April 8, 2013, as amended on April 26, 2013 as reflected in Amendment No. 1 filed with the SEC on April 26, 2013
- (a)(1)(B) * Election to Participate, as amended on April 26, 2013 as reflected in Amendment No. 1 filed with the SEC on April 26, 2013
- (a)(1)(C) * Notice of Withdrawal
- (a)(1)(D) * Form of New Warrants to be Exchanged for Eligible Warrants
- (a)(1)(E) * Letter from Frank Reynolds, Chairman, Chief Executive Officer and Chief Financial Officer of the Company, to Holders of Eligible Warrants dated April 8, 2013
- (a)(1)(F) * Press release dated April 8, 2013
- (a)(1)(G) * Transcript of Company Webcast dated April 8, 2013
- (d)(1)(A) Form of Investor Warrant of InVivo Therapeutics Holdings Corp. (incorporated by reference from Exhibit 4.3 to the Company’s Current Report on Form 8-K, as filed with the SEC on November 1, 2010)
- (d)(1)(B) Form of Warrant of InVivo Therapeutics Holdings Corp. issued to Bridge Lenders (incorporated by reference from Exhibit 4.5 to the Company’s Current Report on Form 8-K, as filed with the SEC on November 1, 2010)

- (d)(1)(C) Form of Warrant of InVivo Therapeutics Holdings Corp. (\$1.00 exercise price) issued to Placement Agent (incorporated by reference from Exhibit 4.2 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)
- (d)(1)(D) Form of Warrant of InVivo Therapeutics Holdings Corp. (\$1.40 exercise price) issued to Placement Agent (incorporated by reference from Exhibit 4.3 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)
- (d)(1)(E) Form of Registration Rights Agreement, by and between InVivo Therapeutics Holdings Corp. and the investors in the offering (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on November 1, 2010)
- (d)(1)(F) Placement Agent Agreement dated October 4, 2010, between InVivo Therapeutics Corp. and Placement Agent (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)
- (d)(1)(E) Form of Registration Rights Agreement, by and between InVivo Therapeutics Holdings Corp. and the investors in the offering (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on November 1, 2010)
- (d)(1)(G) Placement Agent Agreement dated October 4, 2010, between InVivo Therapeutics Corp. and Placement Agent (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)

* Previously filed.

SIGNATURE

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

INVIVO THERAPEUTICS HOLDINGS CORP.

By: /s/ Frank M. Reynolds

Name: Frank M. Reynolds

Title: Chief Executive Officer

Date: April 26, 2013

EXHIBIT INDEX

- (a)(1)(A) * Offer to Exchange, dated April 8, 2013, as amended on April 26, 2013 as reflected in Amendment No. 1 filed with the SEC on April 26, 2013
- (a)(1)(B) * Election to Participate, as amended on April 26, 2013 as reflected in Amendment No. 1 filed with the SEC on April 26, 2013
- (a)(1)(C) * Notice of Withdrawal
- (a)(1)(D) * Form of New Warrants to be Exchanged for Eligible Warrants
- (a)(1)(E) * Letter from Frank Reynolds, Chairman, Chief Executive Officer and Chief Financial Officer of the Company, to Holders of Eligible Warrants dated April 8, 2013
- (a)(1)(F) * Press release dated April 8, 2013
- (a)(1)(G) * Transcript of Company Webcast dated April 8, 2013
- (d)(1)(A) Form of Investor Warrant of InVivo Therapeutics Holdings Corp. (incorporated by reference from Exhibit 4.3 to the Company's Current Report on Form 8-K, as filed with the SEC on November 1, 2010)
- (d)(1)(B) Form of Warrant of InVivo Therapeutics Holdings Corp. issued to Bridge Lenders (incorporated by reference from Exhibit 4.5 to the Company's Current Report on Form 8-K, as filed with the SEC on November 1, 2010)
- (d)(1)(C) Form of Warrant of InVivo Therapeutics Holdings Corp. (\$1.00 exercise price) issued to Placement Agent (incorporated by reference from Exhibit 4.2 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)
- (d)(1)(D) Form of Warrant of InVivo Therapeutics Holdings Corp. (\$1.40 exercise price) issued to Placement Agent (incorporated by reference from Exhibit 4.3 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)
- (d)(1)(E) Form of Registration Rights Agreement, by and between InVivo Therapeutics Holdings Corp. and the investors in the offering (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on November 1, 2010)
- (d)(1)(F) Placement Agent Agreement dated October 4, 2010, between InVivo Therapeutics Corp. and Placement Agent (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)
- (d)(1)(E) Form of Registration Rights Agreement, by and between InVivo Therapeutics Holdings Corp. and the investors in the offering (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on November 1, 2010)

(d)(1)(G) Placement Agent Agreement dated October 4, 2010, between InVivo Therapeutics Corp. and Placement Agent (incorporated by reference from Exhibit 10.4 to the Company's Current Report on Form 8-K, as filed with the SEC on December 9, 2010)

* Previously filed.

InVivo Therapeutics Holdings Corp.
One Kendall Square, Suite B14402
Cambridge, Massachusetts 02139

April 26, 2013

BY EDGAR

Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549
Attn: David L. Orlic, Special Counsel

Re: InVivo Therapeutics Holdings Corp.
Schedule TO-I
Filed April 8, 2013
File No. 005-85686

Dear Mr. Orlic:

This letter is submitted on behalf of InVivo Therapeutics Holdings Corp. (the “Company”) in response to the comments of the staff of the Division of Corporation Finance (the “Staff”) of the Securities and Exchange Commission (the “Commission”) with respect to the Company’s Schedule TO-I filed on April 8, 2013, as set forth in your letter to the Company dated April 16, 2013 (the “Comment Letter”).

For reference purposes, the text of the Staff comments contained in the Comment Letter has been reproduced herein with responses below each numbered comment. For your convenience, we have italicized the reproduced Staff comments from the Comment Letter and we have bolded the headings of our responses thereto. In addition, the Company has today filed with the Commission Amendment No. 1 to the Schedule TO-I (“Amendment No. 1”) which incorporates the Company’s responses to the Staff’s comments.

Offer to Exchange, dated April 8, 2013

1. *Refer to the following sentence on page 6: “We are not making, and will not make, the Offer to holders of Eligible Warrants in any state or other jurisdiction in which the Offer would not be in compliance with the laws of such state or other jurisdiction.” Similar disclosure appears on page 11. Please explain to us how limiting participation in this manner is consistent with Exchange Act Rule 13e-4(f)(8)(i). If you are attempting to rely on Rule 13e-4(f)(9)(ii), we note that Rule 13e-4(f)(9)(ii) is restricted to state law. See also the Commission’s guidance in SEC Release No. 34-58597, Part II.G.1 (September 19, 2008).*

Response to Comment No. 1

In response to the Staff's comment, the Company has revised the disclosure on page 6 and elsewhere in the Offer to Exchange to delete the language purporting to limit participation in the exchange in any state or other jurisdiction.

6. Extension of the Offer; Termination; Amendment, page 13

2. *Please describe how the offeror could "increase or decrease the number of Eligible Warrants eligible to participate in this Offer." In this regard, please tell us if any other warrants are outstanding, and whether those warrants have anti-dilution provisions. Please confirm that any decrease in the number of Eligible Warrants would be done in a manner consistent with Rule 13e-4(f)(8)(i), and advise us as to how this would be accomplished. We also note that, if this disclosure is intended to address circumstances covered by Rule 14e-1(b), that rule addresses the percentage of the class of securities being sought, rather than the number of securities of the class of securities being sought.*

Response to Comment No. 2

In response to the Staff's comment, the Company has revised the disclosure to refer only to a decrease in the Eligible Warrants that may be exchanged in the offer. As described in Section 2 of the Offer to Exchange, the Eligible Warrants consist of (i) warrants issued in connection with the closing of a merger (the "Merger Warrants"), (ii) warrants issued to accredited investors in a private placement (the "Investor Warrants"), and (iii) warrants issued to the placement agent as compensation for services in connection with the private placement (the "Placement Agent Warrants"). All of these warrants include an anti-dilution provision and, as stated in Section 1 of the Offer to Exchange, the primary purpose of the offer is to exchange these warrants for new warrants that no longer contain the anti-dilution provision. Other than the Eligible Warrants, the Company has outstanding three warrants to purchase an aggregate of 395,353 shares issued to accredited investors, none of which include the anti-dilution provisions of the Eligible Warrants. However, the Investor Warrants differ from the other Eligible Warrants because the Investor Warrants include a redemption provision that permits the Company to redeem the Investor Warrants if certain conditions occur, thus making the Investor Warrants a separate class of Eligible Warrants. Because such conditions could occur during the offer period, the Company may terminate the offer with respect to all Investor Warrants and, in this event, all Investor Warrants would be treated the same. If the Company should terminate the offer with respect to the Investor Warrants, the termination would result in a decrease in the total number of Eligible Warrants eligible to be exchanged in the offer. If the Company determines to terminate the offer with respect to the Investor Warrants, it will disclose the determination promptly and, consistent with Rule 14e-1(b), extend the offer with respect to the other Eligible Warrants for an additional 10 business days from the date notice of the termination is given.

8. Conditions of the Offer, page 14

3. *We note the disclosure on page 16 that you may terminate or amend the offer with respect to the Investor Warrants if at any time before the expiration of the offer the closing bid price of the company's common stock equals or exceeds \$2.80 per share for 20 consecutive trading days. Please revise your disclosure to address any implications under Rule 13e-4(f)(1)(ii) and Rule 14e-1(b).*

Response to Comment No. 3

As noted above in response to the Staff's comment number 2, if the Company terminates the offer with respect to the Investor Warrants, it will promptly announce the termination and, consistent with Rule 14e-1(b), extend the offer with respect to the remaining Eligible Warrants for an additional 10 business days from the date notice of the termination is given and accordingly have revised the disclosure as set forth in the Amendment No. 1.

12. Interests of Directors and Executive Officers; Transactions and Arrangements, page 21

4. *Refer to the following sentence on page 22: "To the best of our knowledge, none of our directors or executive officers has engaged in transactions involving the Eligible Warrants during the past 60 days. Please tell us why you need to qualify your disclosure as "to the best of [your] knowledge." Explain what prevents you from knowing and disclosing this information. Alternatively, please remove the qualification. See the Instructions to Item 1008(b) of Regulation M-A.*

Response to Comment No. 4

In response to the Staff's comment, the Company has deleted the qualification "to the best of our knowledge" appearing on page 22 of the Offer to Exchange.

Financial Information, page 20

5. *Please disclose the ratio of earnings to fixed charges. See Item 1010(c)(4) of Regulation M-A. Please similarly address the pro forma effect of the transaction on this ratio. See Item 1010(c)(6) and Item 1010(b)(2) of Regulation M-A.*

Response to Comment No. 5

In response to of the Staff's comment, we have included the ratio of earnings to fixed charges information in Amendment No. 1, including the pro forma effect of the transaction on the ratio.

Election to Participate

6. We note that the offer is limited to warrant holders who “have such knowledge and experience in financial and business matters that [they are] capable of evaluating the merits and risks of investment in the new warrant(s).” Please provide an analysis as to how this limitation is consistent with Rule 13e-4(f)(8)(i), which requires that the offer be open to all warrant holders.

Response to Comment No. 6

In response to the Staff’s comment, the Company has deleted the limitation from the Election to Participate.

7. It is inappropriate to require representations that operate as disclaimers or waivers of rights. Please delete the language in the Election to Participate requiring the warrant holder to represent and warrant that the person has “had the opportunity to review the current business prospects, financial condition and operating history of the Company,” has “had the opportunity to ask questions and receive answers from the Company” and has “all the information I consider necessary or appropriate for deciding whether to accept the offer.”

Response to Comment No. 7

In response to the Staff’s comment, the Company has deleted the representations and warranties from the Election to Participate.

* * * * *

In connection with the Company’s responses contained in this letter, the Company acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the Company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

If you should have any questions about this letter, please do not hesitate to call the undersigned at (617) 863-5500, or Bradley A. Jacobson, Esq., our outside legal counsel, at (617) 310-6205.

Sincerely,

/s/ Francis M. Reynolds

Francis M. Reynolds

Chief Executive Officer and Chief Financial Officer

cc: Alexandra M. Ledbetter, Attorney-Advisor
Office of Mergers and Acquisition
Bradley A. Jacobson, Esq.
Greenberg Traurig, LLP